

O-Engineers

4th issue, Nov-2017

Learning and Guiding



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Editorial Note



Learning is the only journey which never will stop, sometimes we thought that we are stuck in our lifelong journey of learning but it is just an alteration of the way but not a stop. We all need to understand this alteration and move on, I met many professionals who always complained they thought they are under information flood and it is now difficult for them to compete with this, but when the time passes and they

start understanding that it is actually a alteration not a termination they start accepting the reality of progress and commence the adaptability process. We Carpediers are doing same by sharing our ideas and prospects in O-Engineers, we use learning by involvement methodology and you know what it is working, it is our fourth consecutive edition and we are hopeful that we will enjoy this learning curve as we are right now.

Happy Learning moments Engineers.....

Engr. Qazi Arsalan Hamid

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Feedback

Thanks a Lot.

Engr. Asad Riaz

It is really a quite professional and nice magazine. Thanks for the sharing.

Engr. Yuantao Hui

Learning is not ending process, you and your team proving this.

Engr. FalakNaz Khan

Great Work,keep it up

Qazi Tuseefuddin



Three Motor Diagnostics Case Studies (3.3, 6.6 and 11 KV Motors)

Engr. Irfan Akhter

was still tripping and they were soon to run out of fuses.

We tested the motor with MCA (AT5) and it showed phase to phase short(s). Motor was sent to workshop which confirmed the results and motor was rewound.

Case Study 1:

Motor rating: 3.3 KV, 560 KW.

Problem: Tripping on startup with fuse failures

Investigation: Motor had 03 leads coming out. Client did insulation resistance testing and results were fine. They carried out winding resistance and results were within limits. motor

Lesson learnt: MCA is a useful tool. It works by checking the balances of winding resistance, impedances, phase angles, and Current-to-Frequency ratio as well as LV Tan delta for the motor winding. It can also detect broken rotor

in induction motors. Its an offline test that takes 5 minutes or so.

Case Study 2:

Motor rating: 6.6 KV, 250 KW

Problem: Routine Testing in shutdown

Testing Results: IR/PI values for this motor was greater than 3 which was good. MCA showed no abnormality. Tan delta tip up was however, 8% well above the expected value of <1% for these size and kind of motors and so was the starting value of the tan delta at 0.2% of U_o . It was concluded that motor has contamination. IR being DC is very responsive to

moisture so it was also mentioned that perhaps contamination is not due to moisture.

Upon opening the motor with our recommendation, motor winding was found contaminated with grease

Excessive greasing is dangerous for motors

from bearing (at least 1/8th of the winding) and iron rust at bottom half of the winding. They cleaned the motor with solvent

and air. Complete cleaning with dry ice blasting was planned for next outage.

Lesson learnt:

Excessive greasing is dangerous for motors. It is a well known fact that more bearings fail due to over greasing than under greasing. It was suspected that somebody pumped many strokes on stand still cold motor. Plant maintenance team has now bought SDT 270 Ultrasound kit for Condition based lubrication. Another thing is that if service provider has the capability of understanding what the overall test results are saying, he can easily reach to right conclusion.

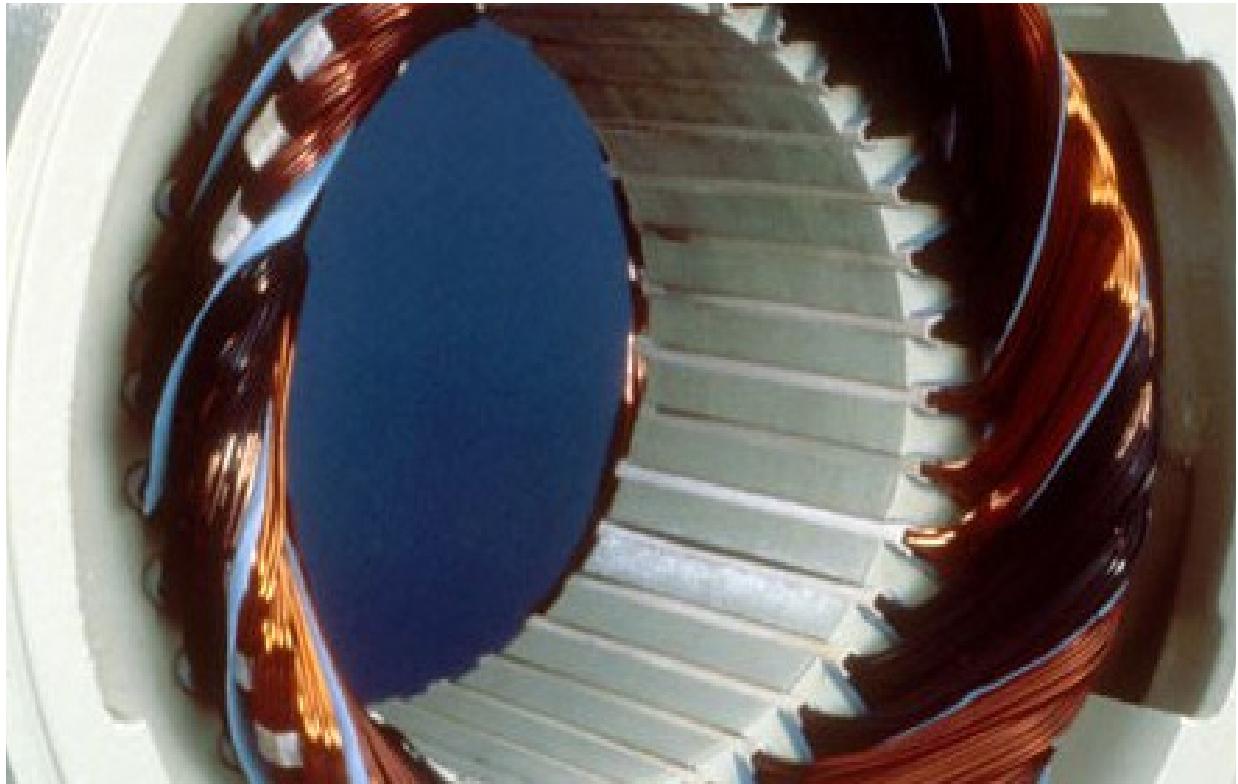
Case Study 3:

Motor ratings: 11 KV, 8 MW

Problem: Routine Condition Assessment Tests

Test Results: The motor was found with 2% + tan delta at 0.2 PU and tan delta tip greater than 3%. Partial Discharge was also higher for new machine and PD inception voltage was also equal to or less than 0.5 PU which was not good. Motor was new and hence we advised the client about poor quality of manufacturing (improper curing as most probable reason and poor workmanship as well). We recommended the

client to install online monitoring system on the motor asap.



Lesson Learnt: Infant mortality was defined as something very important by Nowlan and Heap in their thesis for united decades ago but it still holds true. Many equipment fail pretty soon after being taken into service due to poor quality of manufacturing or installation, commissioning and initial maintenance. Establish baseline for new equipment as soon as you get an opportunity and track the performance.

Final Suggestions for maintenance engineers:

For LV motors, consider MCA and Signature Analysis (ESA) for troubleshooting as well as condition assessment.

For MV motors upto 6.3 KV, MCA, ESA with Tangent Delta Tip up cover almost all key failure modes of the machines.

For MV motor 6.6 KV to 11 KV (13.8 KV in North Americas) add Partial Discharge testing to condition assessment.

About the Author :

Engr. Irfan Akhter is our Senior most Engineering author of the Magazine "O-Engineers", He is Asset Reliability, Risk Assessment, O&M and Project Management Expert in Power/ Utilities.



Engr. Irfan Akhter conducted multiple Technical Training in Various organizations, HE is Technical Director of one of renown organization of Pakistan, Right now Prescon is operational in Pakistan, UAE and Oman.



"Bread without Butter": The race between LED Solar Type & LED Type Street Lights

Momtaz Alsolah

Recently, I have been conducting some studies on energy saving. Sadly, there is a misconception when it comes to energy saving. Many governments around the world believe that it is by converting all Conventional (Traditional) Street Lights to LED Type Street lights that they would be saving billions of USD.

The reality needs a further study. Below are some interesting shares that have led to my conclusions:

1) 10 California Cities Saving Money With LED Street Lights (article dated on January 30th, 2012

<http://www.forbes.com/sites/justingerdes/2012/01/30/10-california-cities-saving-money-with-led-street-lights/#7c01347b1d9f>

2) Difference between a Solar Street Light vs. Traditional Street Light (article dated on June 7th,

2015)

<http://www.sepco-solarlighting.com/blog/difference-between-a-solar-street-light-vs.-traditional-street-light>

3) India To Switch All Its Street Lights To LED In 2 Years (article dated on September 8th, 2015)

<http://cleantechnica.com/2015/09/08/india-switch-street-lights-led-2-years/>

4) Dh3b to be Saved in 20 years with LED Street Lighting (article written 11 months ago)

<http://ems-int.com/blog/dh3b-to-be-saved-in-20-years-with-led-street-lighting/>

5) How Many Countries Are Popular For Solar Street Light? (article dated on June 11th, 2016)

<http://www.solar-led-street-light.com/many-countries-popular-solar-street-light/>

6) Solar Street Light Research (Europe) (article dated on February 5th, 2016)

<http://www.solar-led-street-light.com/solar-street-light-research-europe/>

7) Advantages and disadvantages of solar street lights (as defined by Wikipedia)

https://en.wikipedia.org/wiki/Solar_street_light

8) How solar lighting works

<http://www.solarlighting.com/how-it-works>

9) Solar powered LED lighting systems as offered by Philips Electronics

<http://www.lighting.philips.com/main/products/solar.html>

If one reads the above shares, one would find out that there is still a lot to be done when it comes to saving on the energy consumption (or energy bills) of Conventional (Traditional) Type Street Lights and this in many parts of the world.

Still nations are hesitant even though there are billions of USD that could be saved on energy consumption and energy bills! The question is why?

According to me, it is due to the fact that many nations are hesitant to invest billions of USD at this moment in time to upgrade their existing Conventional(Traditional) Street Lights to LED Types

or LED Solar Types. There are still many doubts about which option is more economical in the long run. I believe that nations should conduct elaborate studies and see what suites them best and this depending on their climate conditions and available budgets while taking into consideration operational costs and all the advantages and disadvantages to conduct such a considerable change. One thing is for sure, time has come for all countries around the world

LED Solar Type Street Lights require no electricity but require sunshine to operate

to choose one of the two options. Time has come to call for the international ban of Conventional (Traditional) Type Street Lights since now there are options.

In many developed countries around the world, they have decided that it was best to take the short cut and go ahead with the LED Solar Type Street Lights without wasting time and money on LED Type Street Lights. It is to be noted that the reason for this decision is based on the fact that LED Type Street Lights require electricity to operate them even though they are much more economical than the Conventional (Traditional) Street Lights while the LED Solar Type Street Lights require no electricity

but require sunshine to operate.

Concerning the GCC region, I believe that it would be wise to go ahead directly with the conversion of all Conventional (Traditional) Street Lights with LED Solar Type Street Lights and this to save billions of USD on energy consumption and energy bills and to help with Climate Change, to reduce the Carbon Footprint and to go Green as well.

So much time has already been wasted in so many countries around the world. Yet, some developed countries around the world have taken the lead already to show that the conversion to LED Solar Type Street Lights is possible and is the best solution in the long run.

Let us see who will show interest in saving planet earth and our dear environment and who shall lead in such a vital race noting that the highest energy bills come from Conventional (Traditional) Street Lights due to the extremely large quantity that is being used on all the roads and highways.

I hope to see the day when I would be travelling on any road on planet earth and the only thing that I would see is LED Solar Type Street Lights and no other types of Street Lights.

This is my way of sharing my interest in our environment (it is to be noted that our environment and our climate is not doing so good if I must be

honest and as such an urgent change of technologies is required at this moment in time).

There is no doubt that renewable energy shall lead the future.

For those that care to know where the origins of the title "Bread without Butter" came from:

<https://www.linkedin.com/pulse/bread-without-butter-introduction-momtaz-alsolh>

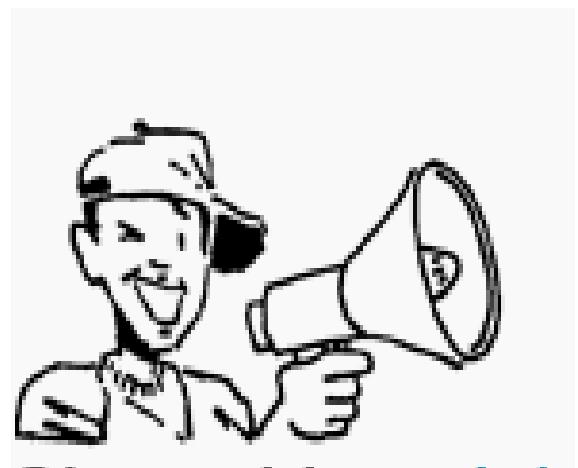
Important hope: I am still praying to almighty Allah (God) to see the light of the fair and just 2018 Labor Law in all GCC countries.

Momtaz Alsolh is
Writer, Philanthropist
and Consultant from
Saudi Arabia,

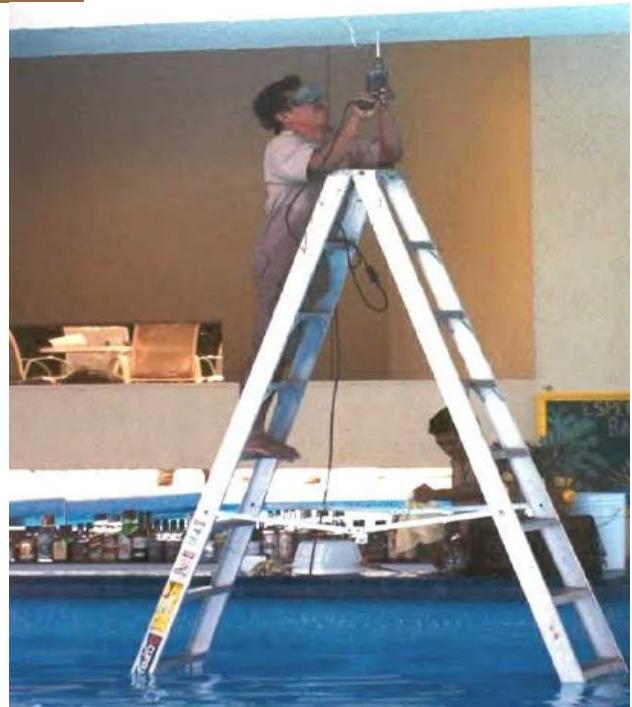


Grounding of Equipments

Engr.Qazi Arsalan hamid



A conducting connection, whether intentional or accidental, between an electrical circuit or equipment and the earth, or to some conducting body that serves in place of the earth.



Why do we Apply ground?

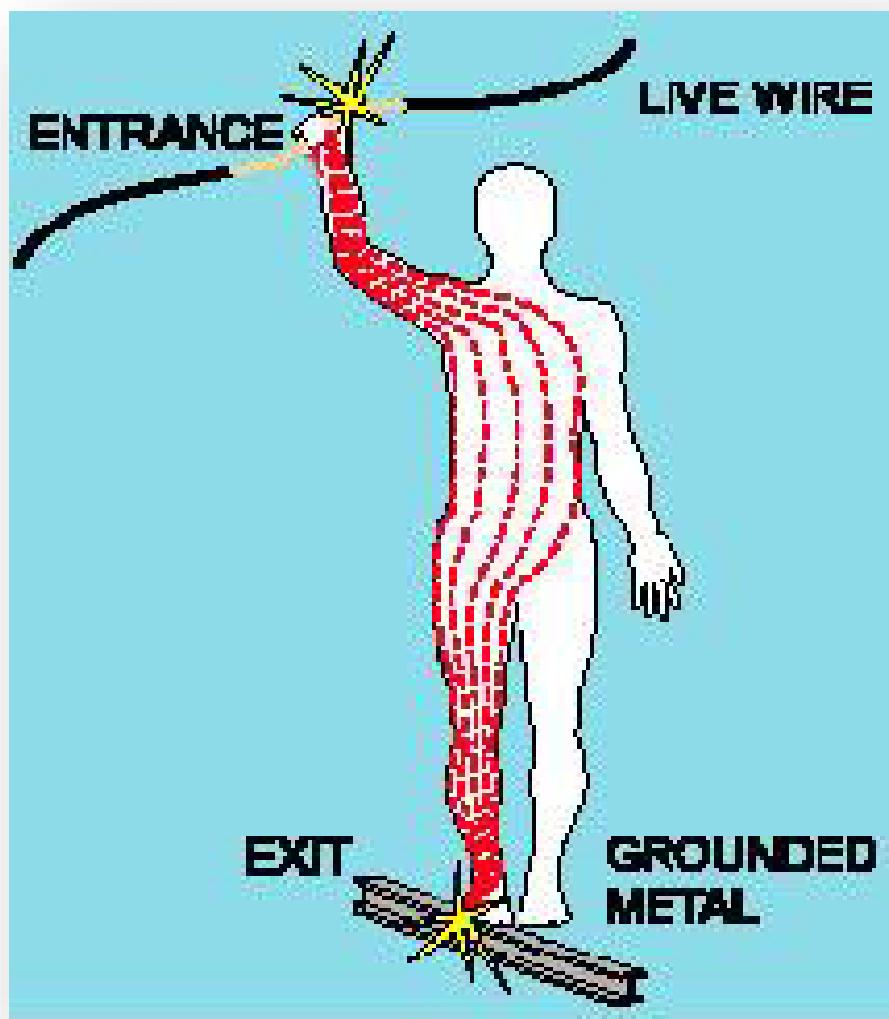
To Protect Ourselves and Equipment from Fault Currents



Electricity will always follow the least resistance path to ground. Proper circuit grounding will keep electricity from using your body to get to the ground.

Grounded Circuit Requirements:

1. Path is continuous and permanent
2. Ample capacity
3. Low Resistance
4. Circuit parts are bonded together

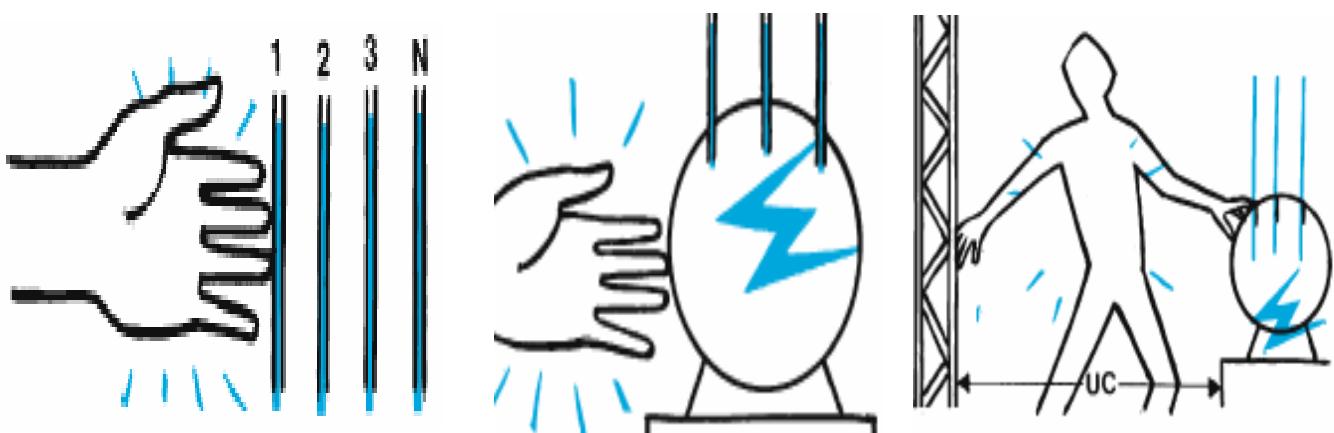


What do we gain from Grounding?

Grounding,

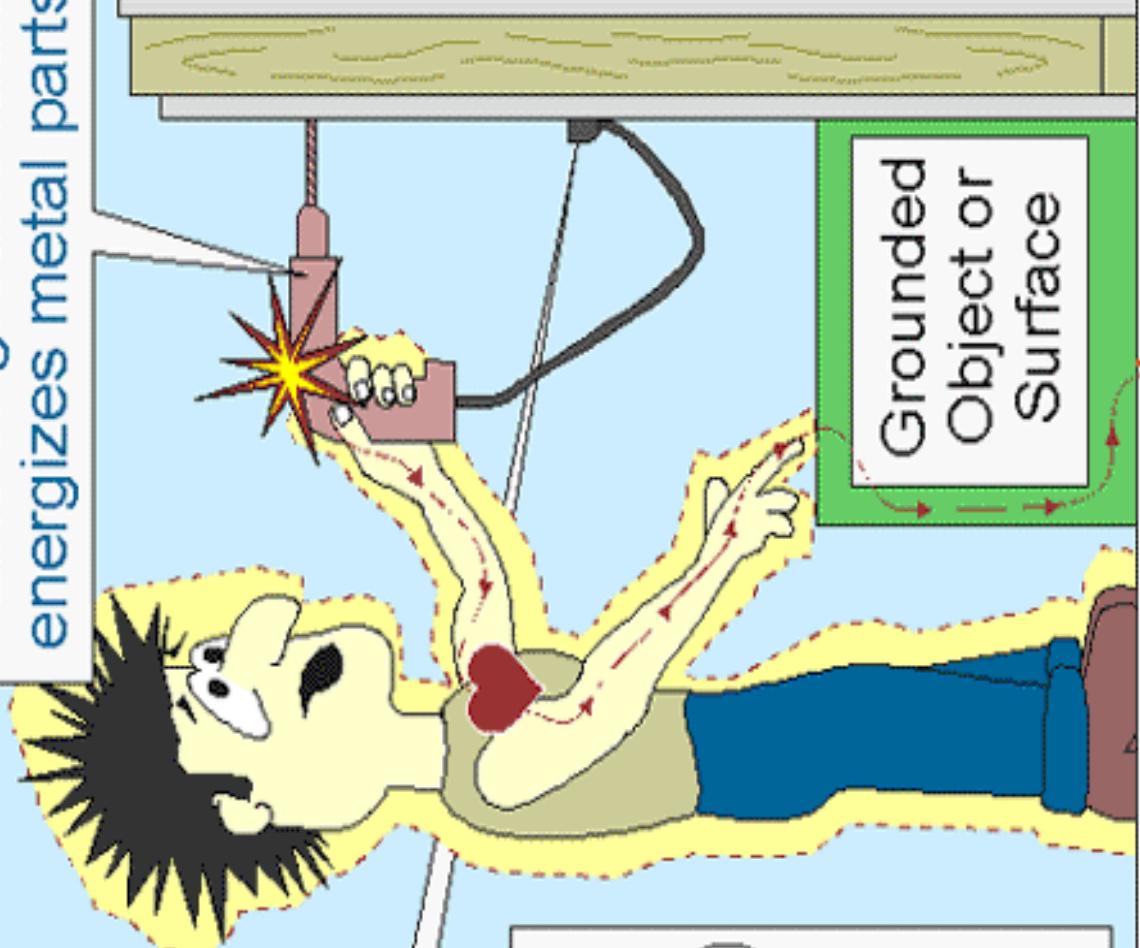
1. Provides personal safety
2. Provides a stable signal reference for instrument accuracy
3. Controls Radio Frequency emissions & Electromagnetic Interferences (EMI's)
4. Provides a discharge path for short circuits and lightning strikes
5. is to stabilize voltage in relation to the earth or to another body that serves as the earth so that the voltage measured between an ungrounded and grounded object is always at the same potential.

Grounding is protection against direct and indirect contact



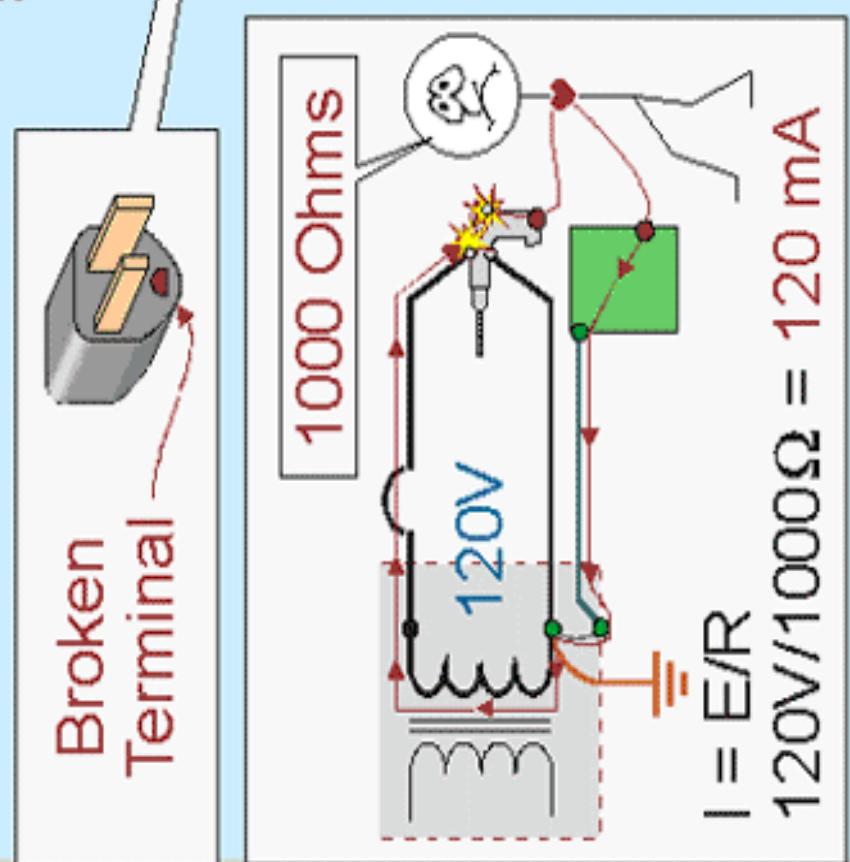
Graphical description of Electrical Shocks

Line-to-ground fault energizes metal parts.



Electrical Shock

The body becomes part of an electrical path.



Copyright 2002 Mike Holt Enterprises, Inc.

What determines the severity of electric shock?

The severity of an electric shock is dependent on the current flowing through the body, which is impacted by the electromotive force (E) measured in volts and the contact resistance (R) measured in ohms, using the formula is $I = E/R$.

Electric Shock Values

Current of 1mA is generally recognized as the threshold of perception.

Currents of 1-6 mA often termed let-go currents, through unpleasant to sustain.

Researchers has established 10.5 ma for women and 16 mA for men.

A 9-25mA range will be pain full.

A range of 60-100mA is in tolerable
Time of exposure to current is 0.06-.3s

Safe current is 9mA.

Voltages were, hand to hand 21.0V, hand to feet 10.2V
Human body resistance range is 500-3000 ohms. On average it is taken as 1000 ohms.

Characteristic property of earthing system
Materials used for earthing should have following properties.

It must have low electric resistance.
It must have good resistance to corrosion.
It must be able to dissipate high fault current repeatedly.

Grounding system

Equipments grounding:

An equipment ground is a physical connection to earth of non-current carrying metal parts.

This type of grounding is done so that all metal part of the equipment that personnel can come into contact with are always at or near zero (0) volts with respect to ground.

Typical items (equipment) to be grounded are
Electrical motor frames
Outlet boxes
Breaker panels
Metal Conduit
Support structure
Cable tray and etc

System grounding:

A system ground refers to the point in an electrical circuit that is connected to earth.

This connection point is typically at the electrical neutral.

The purpose of the system ground is to protect equipment as well as the person working on that equipment.

This ensures longer insulation life of motors, transformers, and other system components.

Substation/ Grid station Grounding:

Earth faults on high-voltage systems can produce dangerous voltage levels on LV installations.

LV consumers (and substation operating personnel) can be safeguarded against this danger by: Restricting the magnitude of HV- earth fault currents. Reducing the substation earthing resistance to the lowest possible value.

Creating equipotential at the substation and at the consumer's installation.

Types of System Ground:

Low Resistance Grounded System

This kind of earthing is performed for power transformers.

The low resistance grounded system is one that has the neutral connected to ground through a small resistance that limits the fault current.

Limits transient overvoltage during ground faults.

Ground fault current typically in the 100 – 600 Amp range.

High resistance grounding:

1. The high resistance grounded system is one that has the neutral connected to ground through a resistive impedance whose resistance is selected to allow a ground fault current through the resistor
2. High resistance grounding is typically applied to situations where it is essential to prevent unplanned outages.

Effect of thin layer of surface material

1. A 3 to 6 inches layer of high resistivity material, such as gravel ,is often spread on earth surface above the ground grid to increase the contact resistance between soil and feet of person.
2. If the surface material has a lower resistivity then the surface voltage will be the same as that of without material.

3. The current through the body will be lowered with the addition of surface material.

Why testing is important for grounding system?

1. Over time, corrosive soils with high moisture content, high salt content, and high temperatures can degrade ground rods/connecting wires and their connections.
2. Initially installed the ground system had low earth ground resistance values, the resistance of the grounding system can increase if the ground rods are eaten away.
3. It is highly recommended to check all grounds and ground connections at least annually as a part of your normal Preventive Maintenance plan.
4. During these periodic checks, if an increase in resistance of more than 20 % is measured, the technician should investigate the source of the problem, and make the correction to lower the resistance, by replacing or adding ground rods to the ground system.

What affects the grounding system

There are four variables that affect the ground resistance of a ground system:

1. Length/depth of the ground electrode
2. Diameter of the ground electrode
3. Number of ground electrodes
4. Ground system design

Soil resistivity

1. Soil Resistivity is most necessary when determining the design of the grounding system for new installations to meet your ground resistance requirements.
2. Poor soil conditions can be overcome with more elaborate grounding systems.

Soil	Resistivity (approx), $\Omega\text{-cm}$		
	Min.	Average	Max.
Ashes, cinders, brine, waste	590	2370	7000
Clay, shale, gumbo, loam	340	4060	16,300
Same, with varying proportions of sand and gravel	1020	15,800	135,000
Gravel, sand, stones with little clay or loam	59,000	94,000	458,000

Factors affecting soil resistivity

Moisture content % by weight	Resistivity $\Omega\text{-cm}$	
	Top soil	Sandy loam
0	$>10^9$	$>10^9$
2.5	250,000	150,000
5	165,000	43,000
10	53,000	18,500
15	19,000	10,500
20	12,000	6300
30	6400	4200

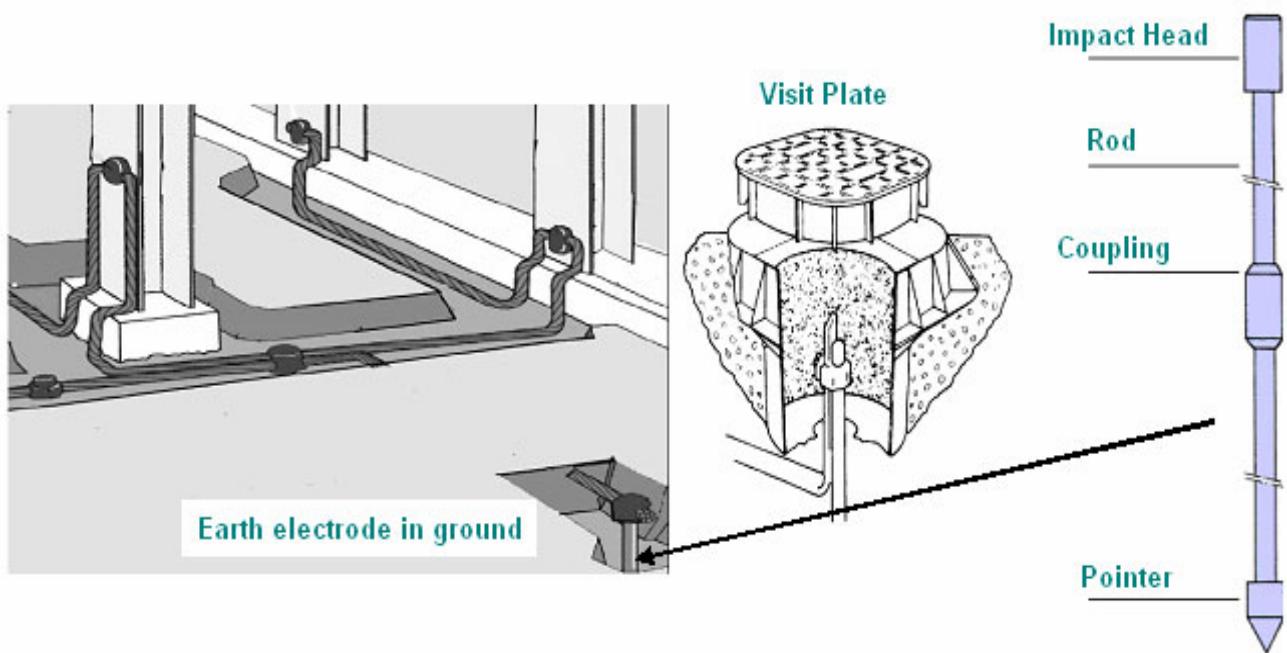
Temperature		Resistivity $\Omega\text{-cm}$
C	F	
20	68	7200
10	50	9900
0	32 (water)	13,800
0	32 (ice)	30,000
-5	23	79,000
-15	14	330,000

Earthing electrode

The “Earthing electrode” passes static charges into the soil.

This may be a device installed solely for grounding purposes, such as a driven rod (copper clad) or buried plate, or it may be an underground metal water pipe.

Earth electrode and its visit plate



Grounding System Maintenance

1. An effective inspection and maintenance program is needed to ensure continuity adequacy of the system.
2. At the time of installation a resistance test is needed to confirm electrical continuity to ground.

In evaluating maintenance requirements, the bonding

can be divided into three categories:

1. The point-type clamps equipped with flexible leads used for temporary bonding of portable containers to the building grounding system.
2. The fixed grounding cables and bus bars used to connect the flexible leads and fixed equipment to ground.
3. The earthing electrode itself.

Flexible Leads

1. The flexible leads are subject to mechanical damage therefore should be inspected frequently.
2. This inspection should evaluate:
 - *. Cleanliness and sharpness of the clamp points.
 - *. Stiffness of the clamp springs.
 - *. Evidence of broken strands in the cables, and solidity of cable attachments.
3. Using an intrinsically-safe ohmmeter to test ohmic resistance and continuity.
4. The fixed leads and the bus bars are not usually as subject to injury as the temporary connectors.
Checked with an ohmmeter on an annual basis.
(Resistance should $< 1\Omega$)
5. Conductive hoses should be checked regularly for electrical continuity and resistance.

Grounding Verification Control System:

1. Yet we rely on a visual means to confirm that a ground clamp and lead are in place for proper grounding or bonding, with periodic confirmation via resistance meters.
2. Newer “electronic verification systems” are the verification systems offer a continuous means of visual/electronic confirmation of ground to a high-integrity ground point (ground bus).
3. Through “interlock” functions they can control pumps, valves , motors, etc. or interface with a PLC or DCS control system to ensure that nothing happens until a good ground is achieved.



Bonding:

Bonding/bonded means connected to establish electrical continuity and conductivity.

- *. It is the permanent joining of metallic parts to form an electrically conductive path that ensures both electrical continuity and the capacity to safely conduct any current likely to be imposed on such metallic parts.

- *. Properly bonded systems are at the same electrical potential as the grounding portion of the electrical system.
- *. Bonded systems are neither designed nor intended to carry current as part of the electrical system but they must be able to safely do so in the event that current is imposed on them.
- *. The bonding of conductive systems minimizes the voltage differential between the different components in the system under both normal and atypical operating conditions.

Direct Bond :

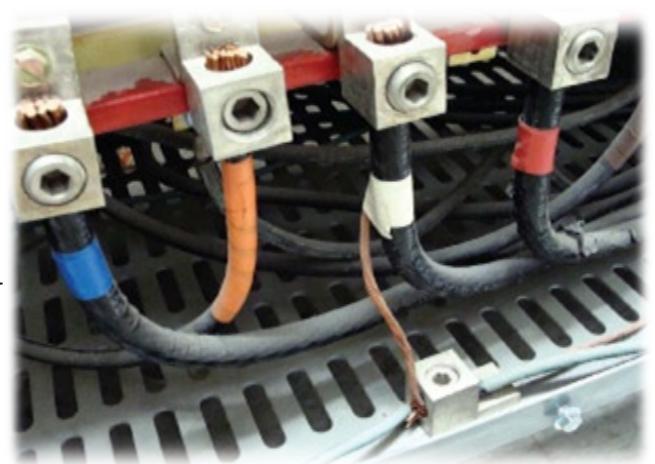
An electrical connection utilizing continuous metal-to-metal contact between the members being joined.

Indirect Bond :

An electrical connection employing an intermediate electrical conductor between the bonded members.

Bonding jumpers:

A conductor installed to assure electrical conductivity between metal parts required to be electrically connected.



To understand the concept of bonding and grounding for safety, the installer must know that for normal load current, short circuit current, or ground-fault current to flow, there must be a continuous circuit or path — and a difference of potential.

Criteria:

The ground-fault current path must be complete and meet three important criteria:

The path for ground-fault current must be electrically continuous and reliable.

It must have adequate current-carrying capacity to conduct safely (both in magnitude and duration) any fault likely to be imposed on it.

It must be of low impedance to facilitate the instantaneous operation of the over current device in the ground-fault current path.



Industrial Engineer's Advice

Engr. Waseem Sajjad

I have done my bachelor degree in Industrial Engineering & Management from Dawood University of Engineering & Technology Karachi followed by MS in Manufacturing System Design from UET Peshawar.

Currently working in KPOGCL as an Assistant Engineer since 2015. Government of Khyber

Pakhtunkhwa (GoKP), being cognizant of Oil & Gas reserves established Khyber Pakhtunkhwa Oil and Gas Company Limited (KPOGCL) in 2013 - a landmark achievement of the present Government KPOGCL, while being actually KPK Government sponsored/ patronized, thus can very conveniently act as an Interface between the E&P Companies and all the other Government Related Agencies thereby actually performing the role of 'One Window Operations'.

It is also the Provincial Holding Company (PHC) under the Petroleum Policy – 2012. KPOGCL is, in fact, a facilitator

to E&P companies, to facilitate oil and gas production in Province of Khyber Pakhtunkhwa has also decided to develop a new Petroleum policy and Petroleum Rules 2016. In this Policy, KPOGCL intends to provide fiscal and regulatory incentives

All ultimately aimed at generating revenue

that would enhance and facilitate E&P companies in accelerating their exploration and development Programs in order to maximize domestic oil and gas production in the coming years.

With ownership of its oil and gas reserves as per article 172(3), KPOGCL has planned to increase oil production from 55,320 bbl/ day to 200,000 bbl/day and gas production from 443 MMCFD to 2000 MMCFD by the year 2025.

The Company promotes all E&P activities throughout KPK by investing in Exploration Blocks and procurement of heavy equipment (i.e. Rig and Seismic Data Acquisition Recorder) - all ultimately aimed at generating revenue and of course fulfilling the direly needed energy requirements of not only KPK Province but the whole country.

KPOGCL with the Government of Khyber Pakhtunkhwa, determined to boost up the province's economy, has already taken a step forward by improving communication infrastructure, unearthing the province's hidden treasure of huge reserves of Oil and Gas initially through the province's indigenous institutions.

Being an Industrial Engineer, article on Industrial engineering which is concerned with the design, installation, improvement, evaluation, and control of socio-technical systems in virtually all sectors, including manufacturing, distribution, government, energy, healthcare, and finance.

A distinguishing feature of the industrial engineering discipline is the integration of humans, machines, materials, and information to optimize the performance of such systems using available resources in the most efficient way, but without degrading social and physical environments.

Industrial engineering training should provide future practitioners with the set of competencies that are required to create and maintain flexible organizations, which in turn are able to adapt continuously to the dynamic environment.

INFORMATION ENGINEERING OPTION:

The industrial engineer strives to make people more efficient and effective by ensuring that they have easy access to the right information at the right time. A systems view of an organization must necessarily address the following issues:

- Providing access to data and distributing relevant data to all who need it.
- Reducing large volumes of data into information that is useful to the management process.
- Coordinating the decision-making processes of people and computers in the organization.

Designing information systems to suit the needs of particular organizations.

- Positioning information technology in the strategic development of a corporation.

People's behavior in work organizations is examined from the point of view of individual and social psychology

In addressing these issues, a distinction is drawn between computing and system technologies, which are clearly relevant to every engineer, and the more specialized industrial engineering topics such as integration

technologies, management of information technologies, and integrated systems. The latter topics address the unique qualities of integrated systems within a particular class of organization, such as manufacturing, business, and health.

HUMAN FACTORS AND ERGONOMICS OPTION

Industrial engineers also improve productivity and efficiency by studying and improving the actual physical work environment. Human factors engineering is the study of people as workers and as managers, both from the physiological and psychological points of view. The study of human

physiology, particularly the nervous system, leads to fascinating discoveries concerning reaction to stimuli, sensory perception, human performance at operator tasks, and people's ability to process information. These principles are applied to the design of human-machine systems, with particular attention to problems of information display, control layout, compensatory controls systems, and the design of work environments. People's behavior in work organizations is examined from the point of view of individual and social psychology. These studies lead to important conclusions

concerning managerial and leadership styles, organizational goals and incentives, employee relations, and the implementation of planned change.

CAREERS IN INDUSTRIAL ENGINEERING

Industrial engineers develop processes and systems that improve quality and productivity. Industrial engineers make significant contributions to their employers by saving money while making the workplace better for other workers. As such, they can find work in any organization that values these goals.



Overseas Recruitment Frauds

Engr. Qazi Arsalan Hamid

Sulman after finishing his bachelor in Electrical Engineering hired in one of the manufacturing firms of Karachi, Sulman applied on many positions on recruitment sites like rozee.pk and mustakbil.com, on the third month of his job he received call from Zaidi Brothers, Zaidi brothers was a recruitment firm operated from Malir Karachi, Caller

identified himself as Haider Zaidi and informed Sulman that he is selected for the post of Electrical Engineer in one reputable firm of Saudi Arabia, Haider asked him to visit his office so details of process will discuss. Sulman visited Zaidi brothers, Haider informed him that Sulman had to submit his medical certificates and degrees copies so his visa will be processed. For medical his expenditures are 5000 rupees, and he needs to do it from one of the branches of agha khan laboratories, Haider asked one of his employees to accompany Sulman

Sulman for medical in nearby branch of agha khan laboratory, Sulman was happy that everything is quite ok and Haider told him that within 2 weeks of medical and paper submission he would have received visa from Saudi Arabia, but one thing is irritating Sulman that Haider asked 1 lac rupees for this visa and he does not have that money, only he could arrange is 25 thousand rupees.

Haider said this amount is ok for now but he has to submit rest of the money before going to Saudi Arabia. Sulman was ok

*Within 2 to 3 weeks
you will receive visa*

with this arrangement .two weeks passed but no news from Zaidi brothers, during this whole tenure one of Sulman friend Kaleem went to Saudia for job purpose after paying 2 lac rupees to one renown recruitment firm Dahalvi recruitment agency (currently still operational in Tariq road, Karachi), so Sulman was ok that this money charging is normal in all recruitment agencies. Month passed and no news from Zaidi brothers, when he visited Haider, Haider informed that within 2 to 3 weeks you will receive visa as there

is some problem with Saudi government but do not worry these things happened in these type of works, but 2 months passed and no news from Zaidi brothers, after complete exhaustion Sulman visited Zaidi brothers office, he was shocked to see that office was gone and now one cloth shop was there in place of recruitment agency.

This whole story of victim is telling what is going wrong in recruitment agency, in many big recruitment agencies middle management asked money for visa, although this must be noted that visa is always free and from client and there are no charges of visa from candidates, but in Pakistan many agencies asked visa fees from candidates, I am myself victim of this visa fees, when alsada recruitment agency located near AG office Karachi asked me to submit 75000 rupees for visa, me and my friend realized that man is con, and we retreated from that agency and never went there again. Many engineers think that it is ok to buy a free and come to foreign land for job hunting actually this is not going to work nowadays in many middle eastern countries due to nationalization, and the only job you will get is lowest paid and with fewer benefits. On the other hand, some recruitment agencies are doing well in terms of transparency like McPack and PPA

but their process is lowest in all over Pakistan, some agencies status is ambiguous like Allied Services, their process is complicated and inefficient. Some clients also played with these agencies like Dar Engineering and alfanar, persons who came for interviews are not professionals and shed their time on the experience of candidates but not on talent. We, engineers, need to be vigilant while providing any person or company our services or time.

Please note no Middle Eastern or Gulf-based company ask money from any candidate for hiring purpose, this is all the drama of local recruitment agencies or middleman.

We will continue this topic in next few edition as we are receiving multiple articles from different engineers who were the victims of this fraudulent practices, we will bring the stories of these victims in front of our readers so they will be aware of these fake recruiters.



Engineer Making Differences

Muhammad Gabr is testing engineer, serving nowadays in Saudi Arabia as Testing and Protection Engineer,

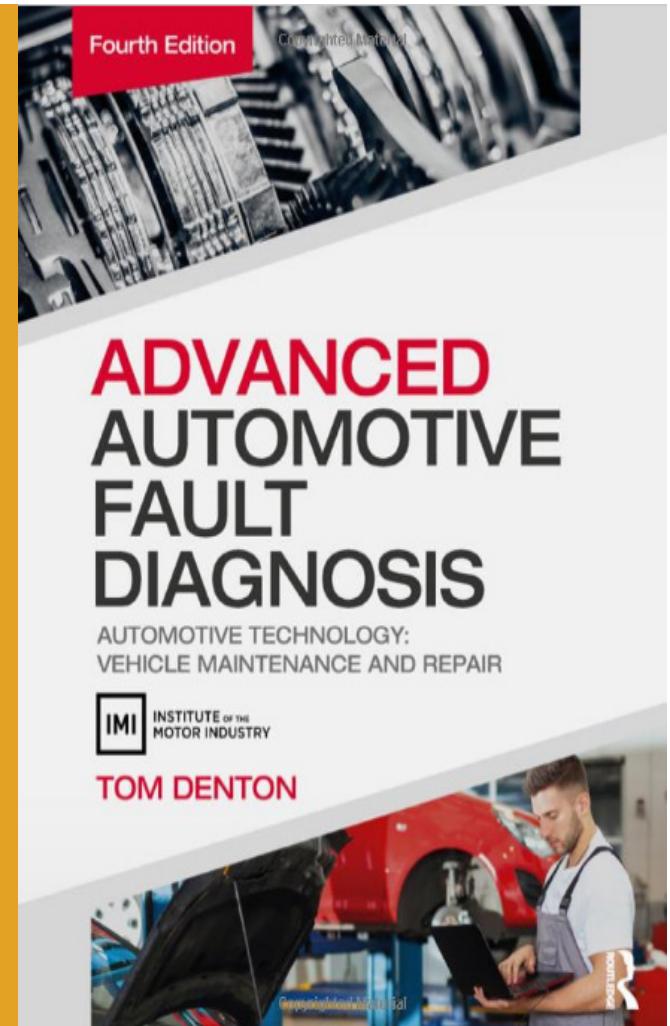


Muhammad Developed one excellent website for Electrical Engineers who are interesting in Protection Engineering Field, this website helps you in learning basic and advanced Protection Techniques.

Web address is www.myprotectionguide.com



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